

5,052,142	Oct., 1991	Mikus	42/70.11
5,171,924	Dec., 1992	Honey et al.	42/70.11; 42/66
5,347,739	Sep., 1994	Stuart	42/70.11; 102/502
5,394,635	Mar., 1995	Stuart	42/70.11; 102/447; 102/529
5,475,994	Dec., 1995	Briley et al.	70/34; 70/330; 70/311; 42/70.11
5,950,344	Sep., 1999	Ross	42/70.11
6,041,536	Mar., 2000	Samuels	42/70.11
6,237,272	May, 2001	Scott	42/70.11; 42/77
6,408,556	Jun., 2002	Achee et al.	42/70.11
6,418,654	Jul., 2002	Trois et al.	42/70.11; 42/66

Primary Examiner:

Attorney, Agent or Firm:

Claims

What is claimed is:

1. A safety cartridge inserted into the chamber of a loaded gun (stored or held by the owner for self defense) with firing pin, hammer, trigger, barrel and bore said cartridge being shaped and dimensioned similar to live ammunition and including:
 - a. a standard cartridge case which has been cross drilled;
 - b. an extension spring with a coil at one end and a straight wire section at the other end which provides means for holding said cartridge together;
 - c. a tension pin mounted within the cross drilled hole of the cartridge case providing means of attaching the extension spring coil end to the cartridge case;
 - d. a slug dimensioned similar to a projectile or bullet except having a diameter slightly less than the gun bore diameter allowing it to move freely in the barrel said slug having a small hole through it to provide means for attachment to the other straight wire end of said extension spring by inserting straight end of spring through the hole and bending it 90 degrees followed by cut off of excess spring wire;
 - e. a standard primer mounted in said cartridge case to be ignited by unauthorized operation of said gun trigger, hammer, and firing pin causing primer ignition and high pressure gases acting on said slug to propel it down the gun barrel stretching the attached extension spring and transforming it into a very long compression spring resulting in a safety cartridge fired length several times its uninitiated length occupying a portion or entire length of said chamber and barrel rendering said gun completely inoperable and preventing unauthorized use of the gun and thus preventing injury of the gun owner or children;

- f. an alternate Preferred Embodiment slug with an o-ring groove and separate o-ring contained in the safety cartridge packaging with instructions giving the gun owner the option of installing said o-ring to the slug to further improve safety by making it much more difficult to remove the fired safety cartridge from the gun because the o-ring causes the slug to be stuck in the barrel and requires considerable force (up to 100 pounds and more depending on lubrication, interference and rubber hardness) to move the slug out of the gun barrel requiring either gun owner special training or the services of a gunsmith to clear the fired safety cartridge from the jammed firearm.
2. A safety cartridge gun jamming device according to claim 1, where the gun owner elects to use his loaded gun for self defense by either ejecting said safety cartridge from the chamber of his loaded pistol, rifle, or shotgun or by indexing the cylinder of his loaded revolver so that said safety cartridge is not inline with the firing pin and barrel of the revolver permitting him to defend himself by firing live ammunition from his gun.
3. A safety cartridge gun jamming device according to claim 1, containing an extension spring with a double coil on the cartridge case end providing increased strength and structural integrity to said safety cartridge during expansion caused by primer ignition from unauthorized gun use.
4. A safety cartridge gun jamming device according to claim 3, containing an extension spring with a soldered double coil on the cartridge case end providing increased strength and structural integrity to said safety cartridge during expansion caused by primer ignition from unauthorized gun use.
5. A safety cartridge gun jamming device according to claim 3, containing an extension spring with a silver soldered double coil on the cartridge case end providing increased strength and structural integrity to said safety cartridge during expansion caused by primer ignition from unauthorized gun use.
6. A safety cartridge gun jamming device according to claim 3, containing an extension spring with a spot welded double coil on the cartridge case end providing increased strength and structural integrity to said safety cartridge during expansion caused by primer ignition from unauthorized gun use.
7. A safety cartridge gun jamming device according to claim 3, containing an extension spring with an adhesive bonded double coil on the cartridge case end providing increased strength and structural integrity to said safety cartridge during expansion caused by primer ignition from unauthorized gun use.
8. A safety cartridge gun jamming device according to claim 3, containing an extension spring with a high strength steel washer crimped, soldered, welded, or bonded to the double coil on the cartridge case end providing increased strength and structural integrity to said safety cartridge during expansion caused by primer ignition from unauthorized gun use.
9. A safety cartridge gun jamming device according to claim 4, with slug having a chamfered or rounded rear end to facilitate and permit slug re-entry into the cartridge case during fired safety cartridge removal operations by the gun owner where his gun is a revolver which requires that the gun owner push the slug back through the barrel with a wooden pencil aligning the slug nose end with the parting surface between the cylinder and barrel allowing the cylinder to be moved out of line with the barrel permitting safety cartridge removal.
10. A safety cartridge gun jamming device according to claim 4, with a light weight red (or other bright color distinguishing it from live ammunition) anodized aluminum slug which increases the fired said safety cartridge length compared to fired safety cartridge length using heavy brass, lead, or steel slug and allows the gun owner to identify (flag) the safety cartridge from live ammunition.

11. A safety cartridge gun jamming device according to claim 4, with a light weight plastic (Delrin) slug which increases the fired said safety cartridge length compared to fired safety cartridge length using a heavy brass, lead, or steel slug and allows the gun owner to identify (flag) the safety cartridge from live ammunition.
12. A safety cartridge gun jamming device according to claim 4, with the straight end of the extension spring threaded through the slug and tied into a knot rather than bent 90 degrees providing increased strength and structural integrity to said safety cartridge during expansion caused by primer ignition from unauthorized gun use.
13. A safety cartridge gun jamming device according to claim 4, with a standoff plastic tube inserted over the straight wire end of the extension spring permitting a short low cost slug to be threaded onto said spring straight wire end bent at 90 degrees to facilitate a lower cost safety cartridge for .38 special revolver, rifle and shotgun application.
14. A safety cartridge gun jamming device according to claim 4, containing a longer extension spring allowing for a longer fired safety cartridge length for larger guns such as rifles and shotguns.
15. A safety cartridge gun jamming device according to claim 14, with a small propellant charge in addition to the primer for large gun application allowing for a longer fired safety cartridge.
16. A safety cartridge gun jamming device according to claim 4, with a slug equipped with a gas operated sound generator such as a reed operated whistle to alert the gun owner that his firearm has been tampered with by an unauthorized person such as a child.
17. A safety cartridge gun jamming device according to claim 4, with a two piece slug designed to separate in two parts in the gun barrel when activated by an unauthorized person resulting in an even louder explosive primer sound alerting the gun owner that his firearm has been tampered with by an unauthorized person (child).
18. A safety cartridge gun jamming device according to claim 4, with an oversized slug having a slightly larger diameter than the gun bore diameter which becomes wedged in the gun bore greatly increasing the difficulty of said fired safety cartridge removal after an unauthorized person attempts to fire the gun.
19. A safety cartridge gun jamming device according to claim 4, with a combustible slug which emits a strong odor alerting the gun owner that his firearm has been tampered with by an unauthorized person.
20. A safety cartridge gun jamming device according to claim 4, with a combustible slug which emits smoke alerting the gun owner that his firearm has been tampered with by an unauthorized person.